

AMENDMENT TO THE CLAIMS

IN THE CLAIMS:

Please amend claims 1, 2 and 31 as follows. A copy of all pending claims and a status of the claims are provided below.

1. (currently amended) A configuration for combining flat structural components of relatively low thickness along their narrow circumferential sides, where connecting members that interact on the tongue-and-groove principle are provided at the areas being connected, and the sides of the groove diverge from a groove base and converge at an end away from the groove base at an angle that is greater than an angle of divergence, where an opening width of the groove is greater than a foremost area of the tongue in a direction of insertion, which tongue exhibits wedge-shaped areas that diverge from front to back at the same angle as the sides of the groove, each of which wedge-shaped areas exhibits an undercut in a back area of the tongue that conforms to the groove cross-section, while the undercut's borders, adjoining the wedge-shaped areas, converge at the same angle as the groove sides toward a connecting bridge, a locking mechanism integrated into the tongue and the groove, wherein an adhesive layer, or a substance which activates an adhesive, is preapplied to the groove at least in the area of its divergent sides or to the tongue at least in the area of its divergent wedge-shaped area, or to both areas.

2. (currently amended) A configuration according to claim 1, wherein:

locking elements are on at least one side of the groove and at least one side of the tongue, the locking elements conform to each other and extend over the entire length of the groove and the tongue are provided in the form of an indentation or recess and a projection, in order to hold connected components in a joined position;

the groove is formed directly in the component or is worked out of the same in order to provide for a connection of the components;

the tongue forms a single piece with the component or is worked out of the same;

a width of the groove increases from inside outward;
a thickness of the tongue decreases in the direction of an unattached end;
the projection on the tongue is triangular and exhibits a shorter back surface and a longer front surface;

the recess in the groove exhibits a shorter contact surface that lies at a distance from the groove base and that rests against the shorter back surface of the projection;

at least one of the two groove sides flex elastically and outwards relative to the other groove side so that in a locked position the tongue is held by the groove sides with a squeezing action or is inserted into the groove while the groove sides bend elastically;

an angle between the longer front surface and the shorter back surface is 1000 to 1400;
two legs of the groove are equally as long as the respective longer front surface and the shorter back surface;

the recess in the groove exhibits a contact area close to the groove base that in the locked position at least partially rests against the longer front surface;

the longer front surface close to the groove base, or the section of the tongue area received by the recess, is four to eight times as long as the shorter back surface; and

the tongue is provided with the layer of adhesive or with the adhesive with an activating substance on at least the contact surface of the groove walls close to at least one of the groove base and on the longer front surface of the tongue.

3. (previously amended) A configuration according to claim 1, wherein:

the grooves of the individual panels are provided with a filling, coating, covering or strand, comprising a latent adhesive material that becomes active after appropriate activation, and

the tongues are provided with a coating or surface impregnation, a covering or strand is applied to the panels and moistens them shortly before they are joined together and comprises an activator which induces adhesion.

4. (previously amended) A configuration according to claim 1, wherein:

the grooves of the panels are provided with a filling comprising the adhesive or glue that is stabilized by removal of a solvent or a dispersion agent but that can be reactivated upon contact with the solvent, and

the tongues of the panels are provided with a film or covering that is applied or sprayed on before the panels are joined together and that at least moistens said tongues, or with a surface impregnation comprising the solvent or dispersing agent which serves as an activator for the adhesive or glue.

5. (previously amended) A configuration according to claim 1, wherein:

the grooves of the panels are provided with a filling comprising a dispersion glue that is stabilized by the removal of water, but that can be reactivated upon contact with a solvent and comprising a fast-binding and mounting glue on a polyvinyl acetate base.

6. (previously amended) A configuration according to claim 1, wherein:

the grooves of the panels are coated with an initial component of a two-component glue, and

the tongues are coated with a second component of said two-component glue, or vice versa.

7. (previously amended) A configuration according to claim 1, wherein:

the grooves or the tongues of the panels are coated with a second component applied in the course of manufacturing the panels of a two-component polymerization glue, in a form of a hardener varnish, and with a first component which is applied to the second component before the panels are laid.

8. (previously amended) A configuration according to claim 7, wherein the hardener varnish has an organic peroxide as its base and the first component is a resin component which has a methyl acrylate base.

9. (previously amended) A configuration according to claim 7, wherein the hardener varnish has an aliphatic or cycloaliphatic polyamine as its base and the resin component is based on at least one of an epoxide and bisphenol A and bisphenol F resin.

10. (previously amended) A configuration according to claim 1, wherein the adhesive is a micro-encapsulated adhesive and at least one of lateral areas of the groove belonging to the panels and at least one of the tongue lateral areas is provided with a coating or strand with the micro-encapsulated adhesive that is immediately active.

11. (previously amended) A configuration according to claim 10, wherein the micro-encapsulated adhesive takes the form of a two-component adhesive with a mixture of a micro-encapsulated resin component and a micro-encapsulated hardener component.

12. (previously amended) A configuration according to claim 1, wherein the adhesive is a two-component adhesive and at least one of lateral groove areas of the panels is provided with a coating or with a strand of micro-encapsulated resin component of the two-component adhesive and at least one of lateral tongue areas that interacts with said coated lateral groove area is provided with a coating, or film or strand of a micro-encapsulated hardener component of said two-component adhesive, or vice versa.

13. (previously amended) A configuration according to claim 1, wherein the adhesive is a two-component adhesive and at least one of at least one of lateral groove areas and at least one of lateral tongue areas is provided with a coating or a film of micro-capsules that are dispersed in a matrix of a hardener component of the two-component adhesive and that contains a resin

component of the same adhesive, or of micro-capsules dispersed in a matrix of the resin component and containing the hardener component.

14. (previously amended) A configuration according to claim 1, wherein the adhesive is a lastingly sticky and permanently active adhesive glue which is covered or coated on at least one of the grooves of the panels and the tongues.

15. (previously amended) A configuration according to claim 14, wherein the lastingly sticky and permanently active adhesive glue exhibits viscosity values between 15,000 and 1500 centipoise at temperatures between 140 and 170 C and is applied at temperatures in the indicated range.

16. (previously amended) A configuration according to claim 14, wherein the sticky and permanently active adhesive glue is molten adhesive glue.

17. (previously amended) A configuration according to claim 1, wherein at least one of the grooves of the panels and the tongues are provided with the adhesive which is an integral adhesive strand exhibiting a core strand of a lastingly sticky and permanently active adhesive glue and a polymer cladding strand that surrounds said core strand on all sides, prevents the diffusion of water or any adhesive solution or dispersion agent, and is destroyed by the action of pressure and shearing forces exerted when the panels are brought together, where the core strand is formed with an active adhesive or glue with setting properties that is prepared with at least one of water and a dispersion agent or solvent on at least one of a synthetic polymer base, a polyvinyl acetate base, and on a biopolymer base, on at least one of a starch and protein base.

18. (previously amended) A configuration according to claim 17, wherein the cladding strand for the adhesive or cement strand is formed with a flexible polymer material that is adhesive relative to the material of the panel, at least upon application of the integral adhesive strand, and

that will set rapidly, and with butyl rubber or with a two-component or moisture-linking polyurethane rubber mass.

19. (previously amended) A configuration according to claim 17, wherein at least one of the grooves and the tongues are provided with the adhesive which is an integral adhesive strand that exhibits a cross-section with the shape of a flattened dome.

20. (previously amended) A configuration according to claim 1, wherein a coating of the grooves of the panels is an adhesive that is stabilized by removal of water but can be (re-)activated upon contact with water or water moisture and exhibits a basically uniform layer thickness in the range from 0.1 to 0.4 with thickness tolerances in the range of 0.05 mm.

21. (previously added) A configuration according to claim 2, wherein the shorter back surface and the longer front surface form two triangular sides.

22. (previously added) A configuration according to claim 21, wherein the two triangular sides are between 110° to 130°.

23. (previously added) A configuration according to claim 2, wherein the longer front surface is five to seven times as long as the shorter back surface.

24. (previously added) A configuration according to claim 2, wherein both of the two groove sides flex elastically and outwards relative to the each other.

25. (previously added) A configuration according to claim 3, wherein:

at least one of lateral groove areas of the grooves are provided with the filling, coating, covering or strand, and

at least one of the sides of the tongues are provided with the coating or surface impregnation.

26. (previously added) A configuration according to claim 4, wherein:

the filling is a coating applied to at least one of lateral areas of the grooves,
at least one of lateral areas of the tongues of the panels are provided with the film or covering, and
the surface impregnation comprising the solvent or dispersing agent is water.

27. (previously added) A configuration according to claim 6, wherein:

at least one of lateral areas of the grooves of the panels are coated with the initial component which is unhardened or not fully hardened resin component of a two-component polymerization glue, and

at least one of lateral areas of the tongues are coated with the second component which is a hardener component.

28. (previously added) A configuration according to claim 15, wherein the range is between 145 and 155 C.

29. (previously added) A configuration according to claim 17, wherein border areas of the at least one of the grooves of the panels and the tongues are provided with the integral adhesive strand and the dispersion agent or solvent is wood glue.

30. (previously added) A configuration according to claim 20, wherein the basically uniform layer thickness is in the range from 0.15 to 0.25 mm with thickness tolerances in the range of 0.05 mm.

31. (currently amended) A configuration for combining flat structural panels, comprising:

a first panel having a groove with a groove opening and a groove base, the groove further having a first locking element and divergent sides,

a second panel having a tongue with a second locking element which interacts with the first locking element when the first panel and the second panel are joined, the tongue having a divergent wedge shape;

an adhesive layer or a substance which activates an adhesive preapplied to the groove at least in the area of the divergent sides or to the tongue at least in the area of the divergent wedge-shaped area, or to both areas, wherein

one of the first locking element and the second locking element is a recess and the other of the first locking element and the second locking element is a projection,

the projection and the recess have a triangular cross-section,

a triangular side closer to the groove opening is shorter and more inclined than a triangular side closer to the groove base such that when the tongue is inserted into the groove, the longer side of the projection slides on a section formed prior to the shorter triangular side until the projection has overcome an inner edge of the section and is received by the recess.
